REMARKS

Claim 1 has been amended. New claim 62 has been added. No new matter has been added. Support for this claim amendment and new claim may be found throughout the specification, for example, at p. 16, lines 24-34 and page 39, lines 18-20 of the specification.

CLAIM REJECTIONS

Rejection of Claims Under 35 U.S.C. §102(b) as Anticipated by Morgan

Claims 1, 4, 8, 13-16, 18-20, 25, 27-28, 32, 37, 40, 41 and 45 have been rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,204,029 issued to Morgan ("Morgan"). Claims 4, 8, 13-16, 18-20, 25, 27-28, 32, 37, 40, 41 and 45 depend from claim 1.

Claim 1 relates to an antimicrobial material in an encapsulated form, including (i) a core including an antimicrobial material and (ii) a shell of encapsulating material, where the shell of encapsulating material is impermeable to the antimicrobial material and includes a hydrophobic shell material having a melting point above about 45°C, and where the shell is selected to prevent, reduce or inhibit heat degradation of the antimicrobial material when heated to a temperature of at least 60°C.

Morgan discloses "[m]icrocapsules having a solid, fusible shell and a multiplicity of liquid cores." See Morgan, Abstract. Morgan states that "[t]he material which is to form the fusible solid shell can, broadly speaking, be any material which can be melted, emulsified, and then solidified." See Morgan, col. 3, lines 11-14. Morgan discloses that characteristics of the shell can include a melting point in the range of 110° F to 195° F, a viscosity similar to the viscosity of the core material at the emulsion temperature, and immiscibility with the core material. See Morgan, col. 4, lines 63-68; col. 6, lines 3-7; col. 6, lines 14-17. Morgan further discloses that categories of shell materials can include fats, waxes, and edible materials that can be used to produce foodstuffs. See Morgan, col. 3, lines 15-21; col. 4, lines 1-3; col. 4, lines 39-41. However, Morgan does not disclose selecting a shell material to prevent, reduce or inhibit heat degradation of the antimicrobial material when heated to a temperature of at least 60°C. As a result, Morgan does not disclose an antimicrobial material in an encapsulated form, including a shell of encapsulating material, where the shell is selected to prevent, reduce or inhibit heat degradation of the antimicrobial material when heated to a temperature of at least 60°C, as recited in claim 1.

Accordingly, Morgan does not anticipate claim 1 and claims dependent therefrom. Applicants respectfully request reconsideration and withdrawal of this rejection.

Rejection of Claims Under 35 U.S.C. §103(a) as Being Unpatentable Over Morgan

Claims 1, 4, 8, 9, 11, 13-16, 18-20, 25, 27-28, 32, 37, 39-43 and 45 have been rejected under U.S.C. §103(a) as being unpatentable over Morgan. Claims 4, 8, 9, 11, 13-16, 18-20, 25, 27-28, 32, 37, 39-43 and 45 depend from claim 1.

Morgan teaches "[m]icrocapsules having a solid, fusible shell and a multiplicity of liquid cores." See Morgan, Abstract. Morgan teaches that "[t]he material which is to form the fusible solid shell can, broadly speaking, be any material which can be melted, emulsified, and then solidified." See Morgan, col. 3, lines 11-14. Morgan teaches that characteristics of the shell can include a melting point in the range of 110° F to 195° F, a viscosity similar to the viscosity of the core material at the emulsion temperature, and immiscibility with the core material. See Morgan, col. 4, lines 63-68; col. 6, lines 3-7; col. 6, lines 14-17. Morgan further teaches that categories of shell materials can include fats, waxes, and edible materials that can be used to produce foodstuffs. See Morgan, col. 3, lines 15-21; col. 4, lines 1-3; col. 4, lines 39-41. Morgan does not teach or suggest a shell, where the shell is selected to prevent, reduce or inhibit heat degradation of the antimicrobial material when heated to a temperature of at least 60°C.

Moreover, Morgan does not provide any teaching or motivation to select any particular shell material for preventing, reducing or inhibiting heat degradation of antimicrobial material.

Nor is it inherent from the teachings of Morgan that the solid, fusible shell is selected to prevent, reduce or inhibit heat degradation. While Morgan teaches that the cores are surrounded by a shell, this alone does not permit the inference that the shell is selected to prevent, reduce or inhibit heat degradation of the antimicrobial material. See Morgan, col. 3, lines 6-10. Additionally, it is not inherent from the melting points taught by Morgan that the shell is selected to prevent, reduce or inhibit heat degradation of the antimicrobial material. For example, an intact shell, i.e. a shell that has not melted, that allows for increased heat transfer would not prevent, reduce or inhibit heat degradation of the antimicrobial material. As a result, a shell, where the shell is selected to prevent, reduce or inhibit heat degradation of the antimicrobial material when heated to a temperature of at least 60°C is not inherent from the teachings of Morgan.

Consequently, Morgan does not teach or suggest an antimicrobial material in an encapsulated form, including a shell of encapsulating material, where the shell is selected to prevent, reduce or inhibit heat degradation of the antimicrobial material when heated to a temperature of at least 60°C, as recited in claim 1.

Accordingly, claim 1 and claims that depend therefrom, are patentable over Morgan. Applicants respectfully request reconsideration and withdrawal of this rejection.

Rejection of Claims Under 35 U.S.C. §103(a) as Being Unpatentable Over Morgan in View of Francis

Claims 1-3, 5-10, 21-25, 27, 28, 32, 33, 37 and 45 have been rejected under U.S.C. §103(a) as being unpatentable over Morgan in view of Francis. Claims 2-3, 5-10, 21-25, 27, 28, 32, 33, 37 and 45 depend from claim 1.

As discussed above, Morgan does not teach or suggest a shell material, where the shell is selected to prevent, reduce or inhibit heat degradation of the antimicrobial material when heated to a temperature of at least 60°C. This deficiency is not remedied by Francis. Francis teaches that compounds, including nisin, have antimicrobial properties. See Francis, pages 68-69. Francis does not teach a shell of encapsulating material, where the shell is selected to prevent, reduce or inhibit heat degradation of the antimicrobial material when heated to a temperature of at least 60°C.

Therefore, neither Morgan nor Francis, alone or in combination teach or suggest an antimicrobial material in an encapsulated form, including a shell of encapsulating material, where the shell is selected to prevent, reduce or inhibit heat degradation of the antimicrobial material when heated to a temperature of at least 60°C, as recited in claim 1. Thus, claim 1 and claims that depend therefrom, are patentable over Morgan in view of Francis. Applicants respectfully request reconsideration and withdrawal of this rejection.

Rejection of Claim 44 Under 35 U.S.C. §103(a) as Being Unpatentable Over Morgan in View of Amankonah

Claim 44 has been rejected under U.S.C. §103(a) as being unpatentable over Morgan in view of Amankonah. Claim 44 depends from claim 1.

As discussed above, Morgan does not teach or suggest a shell material, where the shell is selected to prevent, reduce or inhibit heat degradation of the antimicrobial material when heated to a temperature of at least 60°C. This deficiency is not remedied by Amankonah. Amankonah teaches "oil-coated microparticulated gellan gum microparticles which are useful as a fat replacer, as an encapsulant and/or as a delivery system for food ingredients in low- or no-fat food matrix." See Amankonah, Abstract. Amankonah further teaches that the "[m]icroparticles of the present invention are spherical globules of gellan gum surrounded with an oil coating." See Amankonah, col. 2, lines 27-28. "Any conventional edible oil can be used to prepare microparticles of the present invention." See Amankonah, col. 2, lines 56-57. "Edible fats having relatively high melting points, such as highly unsaturated fats, can be used instead of or in addition to edible oil for coating the gellan gum globule." See Amankonah, col. 2, lines 60-63. However, Amankonah does not teach or suggest selecting an oil to prevent, reduce or inhibit heat degradation of the antimicrobial material when heated to a temperature of at least 60°C. As a result, Amankonah does not teach or suggest an antimicrobial material in an encapsulated form, including a shell of encapsulating material, where the shell is selected to prevent, reduce or inhibit heat degradation of the antimicrobial material when heated to a temperature of at least 60°C, as recited in claim 1.

Therefore, neither Morgan nor Amankonah, alone or in combination teach or suggest an antimicrobial material in an encapsulated form, including a shell of encapsulating material, where the shell is selected to prevent, reduce or inhibit heat degradation of the antimicrobial material when heated to a temperature of at least 60°C, as recited in claim 1. Thus, claim 1 and claims that depend therefrom, are patentable over Morgan in view of Francis. Applicants respectfully request reconsideration and withdrawal of this rejection.

Rejection of Claims Under 35 U.S.C. §102(b) as Anticipated by Berggren

Claims 1, 9, 12, 17, 25, 27, 28 and 37 have been rejected under U.S.C. §102(b) as being anticipated by E.P. Patent Document No. 0687417 A1 ("Berggren"). Claims 9, 12, 17, 25, 27, 28 and 37 depend from claim 1.

Berggren discloses "[a] process for inhibiting pathogenic bacterial growth in chilled cooked meat products which comprises mixing an encapsulated product in particulate form comprising capsules containing acetic acid within an edible lipid with the meat formulation

before cooking." See Berggren, Abstract. Berggren further states that "the lipid should be solid at room temperature and have a melting point below the maximum cooking temperature of the meet product." See Berggren, page 2, lines 56-57. Further, the "lipid should not react with meat formulation." See Berggren, page 2, line 57. Berggren also discloses that the "lipid may be a food grade hydrogenated or partially hydrogenated vegetable or animal fat." See Berggren, page 3, line 8. Berggren does not disclose that the lipid is selected to prevent, reduce or inhibit heat degradation of the antimicrobial material when heated to a temperature of at least 60°C. As a result, Berggren does not disclose an antimicrobial material in an encapsulated form, including a shell of encapsulating material, where the shell is selected to prevent, reduce or inhibit heat degradation of the antimicrobial material when heated to a temperature of at least 60°C, as recited in claim 1.

Accordingly, Berggren does not anticipate claim 1 and claims dependent therefrom. Applicants respectfully request reconsideration and withdrawal of this rejection.

Rejection of Claims Under 35 U.S.C. §103(a) as Being Unpatentable Over Berggren

Claims 33-37 have been rejected under U.S.C. §103(a) as being unpatentable over Berggren. Claims 33-37 depend from claim 1.

Berggren teaches "[a] process for inhibiting pathogenic bacterial growth in chilled cooked meat products which comprises mixing an encapsulated product in particulate form comprising capsules containing acetic acid within an edible lipid with the meat formulation before cooking." See Berggren, Abstract. Berggren further teaches that "the lipid should be solid at room temperature and have a melting point below the maximum cooking temperature of the meet product." See Berggren, page 2, lines 56-57. Additionally, the "lipid should not react with meat formulation." See Berggren, page 2, line 57. Berggren also teaches that the "lipid may be a food grade hydrogenated or partially hydrogenated vegetable or animal fat." See Berggren, page 3, line 8. Berggren does not teach that the lipid is selected to prevent, reduce or inhibit heat degradation of the antimicrobial material when heated to a temperature of at least 60°C.

As a result, Berggren does not teach or suggest an antimicrobial material in an encapsulated form, including a shell of encapsulating material, where the shell is selected to prevent, reduce or inhibit heat degradation of the antimicrobial material when heated to a

temperature of at least 60°C, as recited in claim 1. Accordingly, claims 33-37, which depend from claim 1, are patentable over Morgan. Applicants respectfully request reconsideration and withdrawal of this rejection.

CONCLUSION

Applicant believes that the claims are in condition for allowance. A petition for a one-month extension of time is attached.

Should any fees be required by the present Reply, the Commissioner is hereby authorized to charge Deposit Account 19-4293.

Respectfully submitted,

Date: 12-3-10

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